troduction. In the other two experiments the quantities were 10 and 9.5 grms. respectively (154 and 146 grains), and it was found that these quantities were not wholly eliminated by the kidneys, a part probably passing out of the body by the intestinal canal. So that it would appear that the kidneys have only the power of excreting phosphates up to a certain maximum rate; that, therefore, when large quantities are present in the blood, their excretion is very gradually accomplished, and when the quantities are very excessive, the intestinal canal is brought in to aid the kidneys.—*Glasgow Med. Journ.*, May, 1872, from *Virchow's Archiv*, December, 1871.

4. *Urea in the Animal Body*,—GSCHEIDLEN has examined almost every tissue in the body for urea, and finds it universally distributed, except in the muscles, in which it is never present.

5. *Investigations on Low Organisms.*—Prof. RINDFLEISCH, of Bonn, has published (*Virchow's Archiv*, December, 1871) some investigations on this subject which are of great interest, and which, when further prosecuted, are likely to lead to important results. His object has been to find a method by which he could cultivate fungi, in such a manner as that, while the substance is exposed to the air, it should be protected from all impurities. With this view he prepares a square microscopic cover-glass, by placing a small drop of wax at each corner, so that when the cover-glass is placed on the slide it is supported as on four pillars of hard wax. The substance to be observed is placed in the centre of a well-cleaned glass slide, and the cover-glass is then placed on it, being afterwards slightly fixed by wax at the four corners. By this means the substance to be investigated is situated beneath the centre of the cover-glass, and around it, under the cover-glass, is a thin zone of air. But this zone is so thin that it will be perfectly still, and no dust will be carried in by currents, while at the same time there is nothing to interfere with any chemical change which may occur between the air and the growing fungus. This method being devised, the author proposes to sow various substances with the spores of different fungi, and observe the results. It is to be observed that during the intervals of observation the preparations are kept in a moist atmosphere. The first observations recorded were made with mould fungus. A portion of apple pulp was placed on a slide, and this sown with spores of the fungus found in rotten apples (*botrytis cinerea*) and the growth of the fungus was seen to take place in the most beautiful manner. It was remarked that, strangely enough, though the mycelium of the fungus grew continuously, the spores were only produced at night. The favus fungus (*achorion Schœnleinii*) was next subjected to observation. A favus crust was moistened with a drop of distilled water, and treated as above. The fungus grew, but its growth was comparatively slow, threads growing out from the moistened crust and producing spores. The spores were rod-shaped as they were formed, but on the addition of a drop of water they swelled up and became globular. The same fungus was also cultivated on a portion of the fruit from plum jam, and the result was a much more vigorous growth than when the favus crust was merely moistened. The different parts were distinctly larger and the growth richer, so that the author describes it as quite a tropical growth of the fungus. We are glad that the author promises still further observations of this interesting nature.—*Glasgow Med. Journ.*, May, 1872.

6. *On the Occurrence of Fungi in the Blood of healthy Men.*—Dr. LOSTORFER has published some observations made by him on blood taken from the finger of healthy men, with precautions to insure against contamination. A single drop was placed on a slide and preserved from evaporation by being kept in a moist chamber. During the first two days nothing noteworthy was remarked; but on the third day there appeared pale globular granules grouped together to the number of two or four, up to twelve. On the fourth day these groups had enlarged both by increase in size in the individual granules, and increase in the number of granules forming the groups. At the same time the granules had somewhat changed their shape, becoming from globular more

angular, so as to resemble the sarcina-form. On the fifth day the groups were still larger, this depending very little on increase in size of the granules, but chiefly on increase in number. As they resemble the sarcina in form, so do they also in their mode of increase as actually observed, this mode of increase being by division. They differ from the commonly known appearances of sarcina in certain points; (1) they are much smaller; (2) the groups are made up of a much larger number of individual granules; (3) they are always colourless, whereas the sarcina ventriculi has generally a yellow tinge. But various observers have already shown that the same fungus may exist in somewhat different conditions under varied circumstances (see even the case of the favus fungus in the article from *Virchow's Archiv*, abstracted above), and the author has found that when Pasteur's fluid is added to the blood in which these organisms have become developed, they become considerably larger, their angles become more marked, and they take on a yellowish tinge, so as to approach much more nearly to the better known appearances of sarcina. The author himself has no doubt as to their identity with the sarcina ventriculi. These organisms are not present in the blood while in the vessels, but these experiments seem to show, that in the majority of cases at least, their germs are there present, and that when the blood is effused and left at rest, the sarcinæ may develop. It is to be remarked that the development of the sarcinæ was not a phenomenon of the ordinary process of decomposition of the blood; the experiments were made with special precautions against the admission of germs of bacteria, etc., and as an actual fact the sarcinæ appeared before any signs of decomposition, or the development of bacteria, so that the author seems warranted in concluding that their germs were present in the blood at the time of removal. The author then refers to various instances in which the occurrence of sarcinæ in other parts of the body than the stomach has been recorded. It has been observed in the lungs, and in the urine especially, and he has no doubt that in these cases the blood was the source from which the germs of the organism were derived. There is also a very strong presumption that even in the stomach the germs are supplied by the blood.

The very remarkable fact of the development of sarcina in healthy blood has been confirmed by Dr. Ferrier, whose investigations are published in the *Brit. Med. Journ.*, January 22, 1872.—*Glasgow Med. Journ.*, May, 1872, from *Stricker's Jahrbücher*, Pt. IV., 1871.

---

7. *Precocious Development.*—M. Flugel (*Bagr. Arztl. Int, Blt.*, No. 49, 1871) gives the account of a female child who had died at the age of 5 years and 6 months, from an attack of dysentery, and at that period had attained the height of 5 feet, and a proportionate development of the body throughout. When *six* months old she had cut all the incisor teeth, when nine months old all the molars. When she had reached her eighteenth month, her catamenial discharges first made their appearance, and from that time occurred with great regularity, especially during her later years. Whilst present she exhibited an unusual degree of liveliness. The hair of her head was long and beautiful. The mamma prominent, external genitals well developed but devoid of hair. The pelvis was capacious. The condition of the internal sexual organs was not ascertained. The intellectual powers of the child, although for six months preceding her death she had begun to prattle, did not appear to be any more advanced than customary at her age.—*Centralblatt f. d. Medicinish Wissenschaften*, Feb. 17, 1872. D. F. C.

MATERIA MEDICA AND GENERAL THERAPEUTICS AND PHARMACY.

8. *Action of Chloral Hydrate.*—The author of a prize essay, presented to the Medical Society of Lyons, has observed (*Lyon Medical*, 1872, p. 296) that the action of chloral on animals varies according to stature, age, and race; old dogs resisting its action less than young or adult ones, and hounds and spaniels